

Analysis of Levels of Motor Coordination in Boys from 12 to 13 Years of age Handball Players in Nanuque / MG: A Case Study

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Abstract— Currently, in the field of Physical Education, it is essential to insert a physical assessment or test, because through them it is possible to diagnose different aspects, assess variables related to motor, social, affective, cognitive and other issues. One of the means found to identify the level of Motor Coordination was the German KTK test (Körperkoordination Test für Kinder) proposed by Kiphard and Schilling. **Objective:** To assess Global Motor Coordination through the KTK test, in adolescents aged 12 to 13 years old, of both sexes, from a sports initiation team to handball in the city of Nanuque-MG. **Methodology:** From a population of 101 athletes enrolled in the handball sports school, 51 students were selected who will fit in the age group of the study. It is worth mentioning that the 51 students chosen correspond to 100% of the population with this age group. The KTK test was used to assess global motor coordination, where the diagnosis is made through the results of the Very Weak, Weak, Regular, Good and Very Good coefficient. For data analysis, descriptive statistics and graphs were used bar. **Results:** The results obtained through the KTK test, showed that the majority presented the MU10 BOM result, with a total of 42 (82%) athletes, being 25 (60%) boys and 17 (40%) girls totaling 82% of those evaluated. **Conclusion:** It was concluded that with the elaboration of this research, the level of Global Motor Coordination of adolescents from 12 to 13 years old, of this handball team in the city of Nanuque / MG, the Very Good coefficient, showing that they have a sufficient state for sports and daily practice without impairing motor development in this age group of early adolescence.

Keywords— KTK, Global Motor Coordination, Adolescents from 12 to 13 years old.

I. INTRODUCTION

Currently, in the field of Physical Education, it is essential to introduce physical or motor tests, because through them it is possible to obtain parameters in relation to different aspects, namely: the motor, social, affective, cognitive, among others. Fitness focused on health and performance changes rapidly during adolescence, both boys and girls are able to obtain significant gains for fitness measures (GALLAHUE and OZMUN, 2013). In view of the experience lived with many students who practice various sports, there was always an observation in relation to some difficulties at the motor level presented by

certain students, to develop some practical activities. In view of these characteristics, it is necessary to diagnose the level that they are in their motor development,

Santos et al (2004), states that motor development is characterized by the experience of several dynamic and static motor situations, such as moving around in different environments and manipulating different objects and instruments in conditions of daily routines at home, school and in sports experiences, generally of playful way.

According to Luz et al (2015), there is a concern in the literature in the development of motor coordination that implies the health of children and adolescents, I

understand that motor coordination has a harmonious and economic interaction of the musculoskeletal system, the nervous system and the sensory system producing precise and balanced motor actions

Motor Learning, in this way, is the foundation of sports initiation studies. Galatti (2006) approaches that the sport initiation is the first moment of contact with the specific practice of the sport, distinguishing itself by the educational objective, of total formation of the human being in order to collaborate for its physical, cognitive, affective and social development. "

One of the ways to identify the level of motor coordination is to apply the German test KTK (Körperkoordination Test für Kinder) proposed by Kiphard and Schilling (1974), for the KTK test there are age norms in the form of values of the QMG (general motor quotient) test in which it attends children from five to fourteen years old with the objective of diagnosing and assessing motor coordination, the KTK method consists of four tasks: balance in rear gear, side jumps, single-legged jumps and lateral transposition

According to Gorla et al. (2000), the test was built primarily to determine the developmental situation of the body domain of children with disabilities. However, it is currently observed that it has been used with several groups, including children with and without disabilities, since it both assesses global motor coordination and identifies children with coordinative / motor disorders, being an important tool to assess the level of motor coordination. in sport as a way of seeking global motor maturation in sports practitioners

In a study on the data obtained from the KTK Lopes et al tests, it addresses that children and adolescents with less developed coordination, are at increased risk of being overweight or obese adults, mainly because they practice less physical activities when compared to those with more developed coordination.

The present study is specifically interested in studies that used KTK as an instrument to assess motor coordination in adolescents aged 12 to 13 years, mainly due to the following aspects: 1) it is an appropriate test for adolescents with typical standard motor development; 2) the test covers an age group of 5 to 14 years of age, that is, it can be applied to adolescents; 3) KTK is easy to set up and takes little time to administer; 4) KTK is one of the tests with the lowest cost of execution; 5) the test is completely standardized and considered highly reliable. Given the above, the objective of this work is to analyze motor coordination through the KTK test in adolescents

aged 12 to 13 years old who practice handball in the city of Nnuaque-MG.

II. MATERIALS AND METHODS

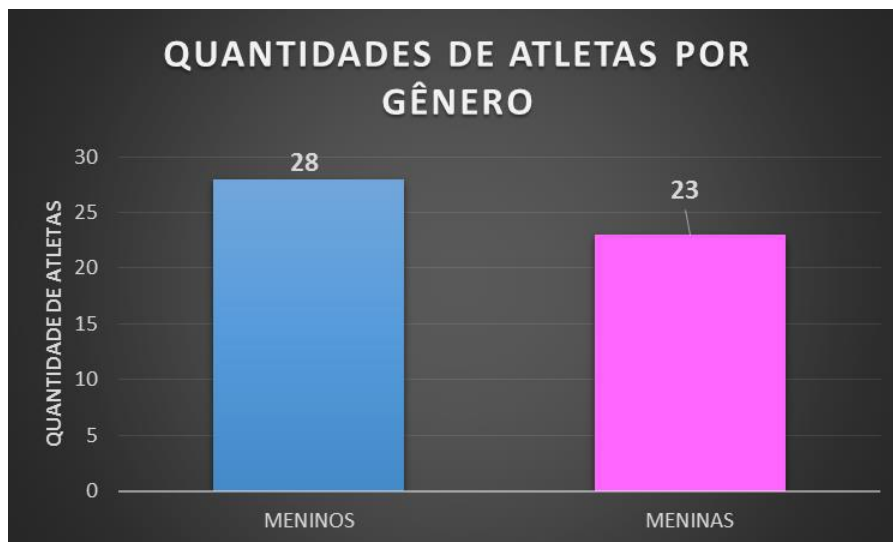
The research was carried out with a sample of 51 students from 12 to 13 years old of both sexes, 28 (55%) boys and 23 (45%) girls of the handball team in the city of Nanuque / MG, as shown in table 1. Participating athletes were chosen without distinction of gender. Data collection was carried out at the training site with a scheduled date at the Poliesportivo Murilo Badaró gymnasium, by a group of trained evaluators from academics in the Physical Education course together with the researcher professor. The athletes were submitted to a battery of body coordination tests - KTK Test (balance beam, lateral jumps and transfer on platform) as recommended by Kiphard & Schilling (1974). For the realization of testing batteries, students were informed of the procedures and were conducted 3 in 3 to perform the test, so on and on to perform the demonstration with respect to the execution of the KTK test. The KTK test consists of four tasks with an increasing level of difficulty, which aims to make the child reach his high performance. The difficulty of the work is measured by achieving or not achieving, proposed to differentiate the maximum performance in each task, acquired by its frequent repetition. In this way, the test is scored by making or counting the reproductions per unit of time. The test takes between 10 and 15 minutes to apply, and covers all aspects of motor coordination, which has balance, rhythm, laterality, the speed and agility that spread across four tasks. The first task, called Balance Beam, consists of walking to the rear on three wooden beams with different thicknesses, in order to observe the stability of the reverse gear, with three valid attempts. The second task, Salto Monopedal, consists of jumping one or more blocks of foam, according to age, placed on top of each other, with a lower limb, having three attempts valid for each height, with the objective of observing coordination and dynamic energy / strength. The third task, Lateral Jump, consists of jumping from side to side, with both feet at the same time, as quickly as possible, for fifteen seconds, with two valid passages, the number of jumps is recorded by the evaluator and added to the end the task, aims to evaluate the speed in alternating jumps. The fourth task, called Transfer on Platform, consists of moving on the platforms that are placed on the ground, in parallel, next to each other, for 20 seconds, with two valid passages, the evaluator adds the two passages at the end of the task with the objective of evaluating laterality and spatio-temporal structuring

III. RESULTS AND DISCUSSION

During the application of the tests, a total of 51 handball athletes aged 12 and 13 years were evaluated in a universe of 101 practitioners within the sports school of

the municipality having a group of 28 boys and 29 girls within the group evaluated (Graph 1). The overall average age of the athletes was 12.5 ± 1.29 years, with males 12.60 ± 1.79 years and females 12.56 ± 0.50 years

Graph1 - Classification of athletes by gender



Result obtained after collecting data from the KTK test, it is observed that most adolescents have a level of motor coordination classified as very good, as shown in Graph 2, where we did not have athletes classified as very weak, 1 (2%) classified as weak, 4 (8%) teenagers classified as weak, another 4 (8%) classified as good and mostly 42 (82%) athletes classified as very good

The "Normal Coordination" and "Good Coordination" of the students evaluated can be associated with the fact that Physical Education classes are made up of a greater variety of activities, which according to Hirtz and Holtz (1987)

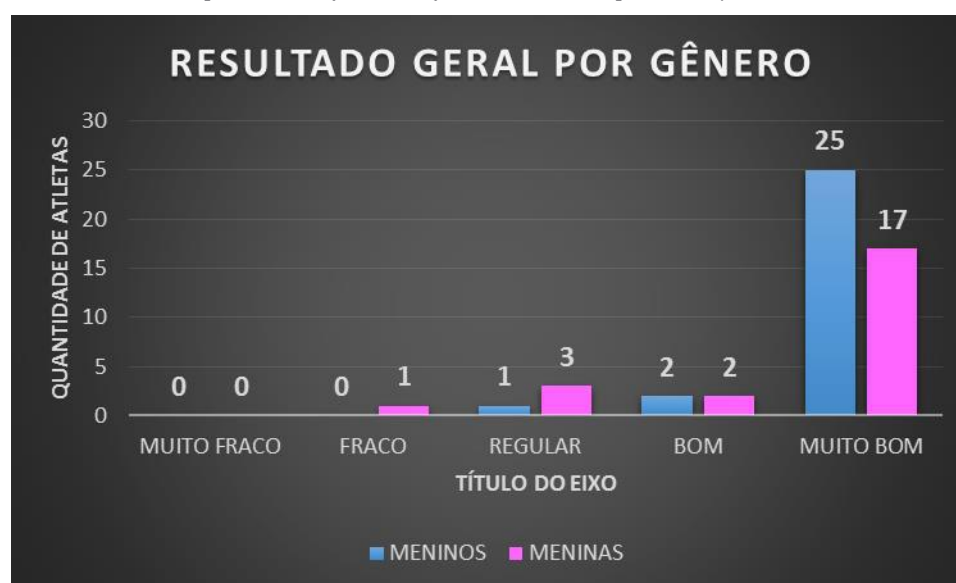
and Hirtz and Schielke (1986) is an essential assumption for the training of coordinating skills.

According to Gorla and Araújo (2009), good motor performance improves the school and sports results of children and adolescents, providing an improvement in their social acceptance, where with good motor coordination, children and adolescents have better performance in their daily activities. , making it more confident and with the highest self-esteem for sports performance.

Graph 2 - General classification of the KTK test



Graph 3- Classification of the KTK Test separated by Gender



Graph 3 shows the classification of the KTK test separated by gender, where we can see a highlight in the very good classification, with a significant amount between the differences between boys and girls, being 25 (60%) boys and 17 (40%) girls.

A study by Souza et al (2014) on performance in motor skills of boys and girls found a higher performance in boys' motorcycles due to the fact that different activities are sometimes offered than girls.

IV. CONCLUSION

With the preparation of this study, he analyzed that with the application of the KTK test it was possible to establish the level of Global Motor Coordination of students aged 12 to 13 years of the handball sports team in the city of Nanuque-MG, where most of the participants are with the Good and Very Good level, showing that they are in a sufficient state for sports and daily practice without impairing motor development in this age group of early adolescence.

The present study contributes so that the education professionals who work with this tool can, through a valid diagnosis, observe the level of motor coordination of their students or athletes once they can make some interventions so that those same evaluated cannot reach a stage. more adult with the level of coordination required below that required both in sport and in his professional life.

Future investigations could use broader samples either focusing on more age groups to be investigated, covering

practitioners of other sports or even different demographic regions.

Given the importance of the topic, it is considered that much remains to be done in the field of research in this area and is therefore a fertile field of work for other researchers.

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